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Sent time: 03/12/2008 03:51:02 PM
To: Cope.Ben@epamail.epa.gov; MBENDER@do.usbr.gov; bhorsburgh@pn.usbr.gov; Juul, Steve T NWW <Steve.T.Juul@usace.army.mil>; Mann.Laurie@epamail.epa.gov; Schneider, Michael L NWP <Michael.L.Schneider@usace.army.mil>; Turner, Rudd A NWD <Rudd.A.Turner@usace.army.mil>; Brasier.Francoise@epamail.epa.gov; Easthouse, Kent B NWS <Kent.B.Easthouse@usace.army.mil>
Subject: RE: Columbia River Temperature TMDL - Draft Meeting Summary

Thanks for the meeting summary. Below are comments the Corps put together about the meeting just before you sent out your email. Please look them over and see if any thoughts need to be incorporated into your meeting summary.

Thanks,

Jim Britton

1. Need to model the system with true pre-dam "natural conditions" temperatures and flows to assess the real impact of the projects on river temperatures throughout the year. One way to do this would be to find pre-dam, boundary-conditions temperatures, match these with pre-dam flows and then model the system. We believe there is sufficient pre-dam data to do this, even if only a few years-worth qualify.

Ms (Mike Schneider)- The 'natural conditions' statement is particularly relevant at the domain boundaries at the Canadian border and on the Snake/Clearwater Rivers. It is important when identifying the source of the thermal impairment to consider the influence of external sources that have altered both flows and temperatures at the boundaries.

2. If pre-dam temperatures are not available, another way to estimate them would be to start the model in mid winter, say mid January when boundary condition temperatures are fairly uniform in the Columbia and Snake Rivers. Boundary temperatures should be between 1 to 4.5 degrees C at this time of year.

ms-Sensitivity analyses could help identify the influence of boundary conditions on the thermal conditions at selected locations in the basin.

3. The current RBM10 model produces the average daily temperature. Whether the model used is RBM10 or CE-QUAL-W2, the model should produce results according state standards. For instance, Oregon bases compliance on the 7-day average of the daily maximum temperatures. Washington's compliance is also based on the 7-day average maximum temperature. The Washington standard is based on a 1 day maximum from Columbia River mouth to Priest Rapids Dam and then a 7-day average daily maximum temperature from Priest Rapids to Canadian Border.

ms-It is important what metric is used to define daily maximum temperatures. The type of model used will dictate what scale processes are simulated. Does the definition of daily maximum involve the local extreme temperatures in a subsection of the river reach in question?

4. Concerning compliance issues, EPA should obtain clear guidance from the States as to what "compliance" with standards means and where and at what depth this is measured at sites below our projects. Compliance should be consistent between TMDLs and the policy should come from the top down so that local interpretations are consistent with the "official" interpretation of the regulations. (This is important because of the odd interpretation of compliance being used in the Pend Oreille TMDL?)

The Seattle District believes this issue is critical and the EPA needs to play a role in how compliance is determined for this multi-state TMDL. We feel that a volume or flow weighted maximum temperature should be used. One concern is that if it is left up to the states, they may impose a very strict interpretation of compliance similar to the Pend Oreille River (i.e. any model cell at any point in the river at any time of the day, no volume or flow weighting). The issue is that the Pend Oreille River CE-QUAL-W2 model

TMDL compliance is precedent setting and that Washington will use that extremely strict interpretation of compliance for all other modeling studies.

ms-One aspect of compliance that has not been fully addressed is how estimates synthesized with numerical models are to be used to determine compliance with state water quality standards. Should model estimates be treated as certain infallible evidence of instantaneous thermal characteristics in the modeled river system or should these results be viewed as uncertain estimates with limitations on the meaningful detection tolerance of model results? Can models results be used explicitly to compare existing and natural conditions at a point in time and space to assess compliance with state water temperature standards or are sophisticated statistical analyses more appropriate to identify systemic changes to thermal properties? What frequency of exceeding standards is required to accede to the designation of thermal impairment? What methodology should be used to identify the most restrictive criteria for attaining water temperature standards (cumulative anthropogenic impacts, natural conditions plus a small allowance, cold water protection, antidegradation, etc.)?

-----Original Message-----

From: Cope.Ben@epamail.epa.gov [mailto:Cope.Ben@epamail.epa.gov]
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NWP
Subject: Columbia River Temperature TMDL - Draft Meeting Summary

Columbia Technical and Policy Group -

Thank you all for attending the March 4th technical/policy meeting in Seattle. I have drafted up a short summary of information that was shared and points of agreement at the meeting. Please review and get back to me with comments (and please cc everybody).

Thanks. -BC

(See attached file: Technical Meeting March 4 2008 Notes.doc)

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